האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

Data Analysis with R - 52414

Last update 09-03-2021

HU Credits: *2*

Degree/Cycle: *1st degree (Bachelor)*

Responsible Department: *Statistics*

Academic year: *0*

Semester: *2nd Semester*

Teaching Languages: *Hebrew*

Campus: *Mt. Scopus*

Course/Module Coordinator: *Or Zuk*

Coordinator Email: *or.zuk@mail.huji.ac.il*

Coordinator Office Hours: *Wednesday 16-17*

Teaching Staff:

Dr. Or Zuk

Course/Module description:

The course teaches principles of data analysis and computation-based statistical inference, with a secondary goal of teaching the R statistical computing language.

Students will learn visualization, data wrangling, sampling / simulation of probability models, and computer-based inference.

Course/Module aims:

The goals of the course:
1. Introduce and practice principles of data-analysis and statistical computing.
2. Develop independence of the students as data analysts and R users.

Learning outcomes - On successful completion of this module, students should be able to:

- Prepare, summarize and present data files in the R environment to answer research questions
- Study probabilistic models using simulations in R
- Use computer experiments to evaluate statistical methods.

Attendance requirements(%):

0

Teaching arrangement and method of instruction: The course comprises of lectures, individual exercises, Labs, and a final home exam.

Course/Module Content:

1.Introduction to interactive and reproducible research with R-markdown and github
2. Data manipulation
3. Table manipulation
4. Summaries and visuals for a single file
5. GGplot environment and Data-viz principles
6. The regression line and transformations
7. Files and strings
8. Sampling in R
9. Monte carlo (complex probability models)
10. Computer-assisted Inference

Required Reading:
None

Additional Reading Material:
Can be used as reference:
http://www.john-ros.com/Rcourse/

Course/Module evaluation:
End of year written/oral examination 35 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 50 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 15 %
weekly exercises (magen)

Additional information: